Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC. 20554

In the Matter of		
Amendment of Parts 2 and 97 of the Commission's Rules to Create a Low Frequency Allocation for the Amateur Radio Service	)	**ET Docket No. 02-98 RM-9404**
Amendment of Parts 2 and 97 of the Commission's Rules Regarding an Allocation of a Band Near 5 MHz for the Amateur Radio Service	)	**RM-10209**
Amendment of Parts 2 and 97 of the Commission's Rules Concerning the Use of the 2400 -2402 MHz Band by the Amateur and Amateur-Satellite Services	)	**RM-9949**

To: The Commission

COMMENTS of Nickolaus E. Leggett
N3NL Amateur Radio Operator

The following are comments from Nickolaus E. Leggett, an amateur extra class radio operator, inventor (U.S. Patents 3,280,929 and 3,280,930 and a computer patent application pending) and a certified electronics technician.

My comments discuss the Notice of Proposed Rulemaking (NPRM) from the standpoint of amateur radio as a fundamentally technical service.

An Enhancement for the 135.7 – 137.8 kHz Allocation

I strongly support the proposed secondary allocation of 135.7 – 137.8 kHz to the amateur radio service. This allocation supports the approach of providing amateur radio operators with a variety of frequency bands for experimentation. Each band has different propagation, operating and technological attributes. Access to these bands allows and encourages amateurs to learn about these different frequencies and to contribute to the state of the art in communications technology.

This learning would be enhanced if the commercial manufacturing and marketing of radio transmitter or transceiver equipment for this band were prohibited. This restriction would reserve 135.7 – 137.8 kHz band for the design, building, and testing of amateur-built equipment. This would be a more effective learning environment than the operation of commercially-built equipment.

Restricting the band to home-built equipment would support the basis and purpose of amateur radio (Section 97.1) while avoiding any negative impact on the existing manufacturers of amateur radio equipment.

Part 15 Operation in the 160 – 190 kHz Band

Even though I was a petitioner for the allocation of the 160 – 190 kHz band to the amateur radio service (footnote 12 page 4 of the Notice of Proposed Rule Making), I agree with the Commission's decision to restrict any amateur radio operation on this band to Part 15 operation. This operation under Section 15.217 restricts the operation to one Watt input to the final transmitter stage and a very short antenna. The antenna efficiency is a very low 0.02 percent (footnote 53 page 8 and 9).

The American Radio Relay League (ARRL) is quoted as stating that these power and antenna rules of Section 15.217 preclude or inhibit effective experimentation (paragraph 8 page 4). In actuality, these rules have stimulated some very impressive circuit design, building, and experimentation on the 160 – 190 kHz band. This has resulted from the very demanding physical challenge of communicating with very low power through a very inefficient antenna. This challenge has stimulated amateurs and others to innovate and develop communications systems that can actually operate under these conditions.

In addition, this "flea power" technology has been dominated by individually-designed and individually-built stations which contribute to a high-level of self training in electronics technology.

The Commission should strive to maintain this environment of excellence in radio experimentation. As amateur radio moves increasingly to commercially-built equipment, the Commission should consider creating additional reserves designed exclusively for the technical experimenter and equipment home-builder.

A valid alternative approach would be to allow the Part 15 experimenters to share the 160 – 190 kHz band with amateur radio operators. I proposed this alternative in comments filed on March 22, 2001 in RM-9404.

Interference to Power Line Carrier (PLC) Communications

The electric power industry has commented that amateur operation in the low frequency range could cause power lines to disconnect resulting in power outages (paragraph 17 page 7). The proposed rules take this possibility into account by establishing lower power limits based on the Canadian model.

However, if amateur stations with a fairly low power output could cause such a problem, what about intentional terrorist activity using higher power transmitters? The Commission should act on this situation by initiating a Notice of Inquiry (NOI) on the security of the PLC systems in the United States from intentional terrorist attacks. This NOI could also address the issue of amateur access to the database of PLC locations (paragraph 28 page 11). This is a question of user access versus security aspects of such a database. Many Federal agencies are grappling with this type of access issue at this time.

Allocation of 5250 – 5400 kHz Band to the Amateur Radio Service

The allocation of this band on a secondary basis to the amateur radio service is a good idea. The ARRL researched its proposal on this band very well and it withstands a detailed examination.

The band should be available to General class and higher amateur radio operators. General class operators have demonstrated sufficient knowledge and discipline for operating in a shared band such as this one.

All commercially-built radio transmitters and transceivers marketed for this new band should be field-repairable including at least replaceable circuit boards. This would help amateur radio communications during intense emergencies. Additional discussion of this topic is provided in RM-10412 currently pending before the Commission.

The Commission should explicitly authorize amateur radio stations in this band to communicate with other emergency services such as the Military Affiliate Radio System (MARS). This authorization would facilitate joint training drills for homeland defense situations.

Primary Allocation in the 2400 – 2402 MHz Band

The proposal to provide the amateur radio service with a primary allocation in the 2400 – 2402 MHz band is an excellent idea. This allocation will help to protect amateur and amateur satellite communications from frequency allocation pressures in this highly valuable frequency range.

Summary

The proposed allocations in this NPRM would definitely serve the public interest. Making the enhancements that I have suggested would further increase their value to the Nation.

Respectfully submitted,

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A courtesy copy of these comments is being provided by electronic means to the ARRL, the original petitioner in this proceeding.